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BECOMING BRILLIANT: WHAT SCIENCE TELLS US ABOUT RAISING SUCCESSFUL CHILDREN

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P R O C E E D I N G S

MS. ATINC: Good morning, everybody. It's wonderful to have you all here. My name is Tamar Manuelyan Antic. I'm a visiting Fellow here at Brookings at the Center for Universal Education. It is my distinct pleasure to have you here today for a wonderful event where we're going to be launching this fantastic book: "Becoming Brilliant: Reimagining Education for Our Time."

I loved the book cover, I have to say. Just put myself in the place of this little baby and wonder what she's seeing through those big glasses. It's a big world out there and we're going to be talking about that.

But first, I want to say a few words about the Center. I think many of you know that our focus is on education globally. We have been quite involved in the lead up to the Sustainable Development Goals in making sure that the learning agenda is incorporated, moving on from access to access and learning.

Our current strategy focuses on improving learning at scale for children and youth around the world. In that broad framework of the goal we have four priority areas. The first one is cultivating the breadth of skills so that children can be successful in life and in work. Second is on making sure there is better measurement and better use of data for that purpose. Third focuses on scaling up quality interventions because there are many wonderful programs that cater to a few, and what does it take to really scale them up and reach the millions that are learning is a focus there. Finally, the fourth is on financing, both mobilizing funding, but also ensuring that the financing that we have is used more effectively to further this agenda.

Now, across these priority areas we have multiple projects. We also have a focus on certain groups that are left behind. That focus extends to, particularly, very young poor children, so a focus on early childhood development on children that live in conflict affected areas or suffer from extreme violence, and finally, on marginalized girls.

One of our projects is, what we call, Skills for a Changing World, an initiative that we have launched with the LEGO Foundation. In the context of this project we're aiming to change the way we think about and develop skills to make sure that there's a focus beyond academic skills on building the breadth of skills for children around the world.

This agenda, as we will hear from the presentation, and as you will have read in the book, really has gained increasing currency, and has become even more urgent given the pace of change in technology and the world of work. The project focuses not just on what can be done in the school system, in the classroom context, but also how one can take advantage of opportunities for non-formal learning outside school.

So this event today that we're very lucky and happy to host is really part of the larger Skills for a Changing World project that we have at the center. At this point, I'd like to acknowledge with appreciation the generous support that we have received from the LEGO Foundation for this event. I'd like to reiterate Brookings' commitment to independence, and underscore that the views that you'll be hearing from the speakers today are strictly their own.

So now, on to the main event. I'd like to introduce our speakers Kathy and Roberta. If you have glanced at the acknowledgment section, you'll see the long-standing collaboration that these two wonderful people have had. I think extending over 30 years. You'll also get a sense of not just the chemistry in terms of their interest in the science of learning, but the amazing personal connection that these two people have. So it's really a pleasure to have them here.

They both have incredibly long, illustrious careers in their bios. I'm not going to be able to do justice to everything they have accomplished, but I'd like to say a few words. I'll start with Kathy Hirsh-Pasek.

Kathy is the Stanley and Debra Lefkowitz faculty fellow in the department of psychology at Temple University where she serves as the director of the Infant Language Laboratory. She's the recipient of numerous awards for her lifetime contributions to the field of psychological research with her longtime collaborator Roberta Golinkoff, her research in the areas of early language development and infant cognition has resulted in over 200 publications and 12 books.

She's a fellow of the American Psychological Association and the American Psychological Society, and served as the associate editor of child development. Her book, "Einstein Never Used Flash Cards: How Our Children Really Learn--and Why They Need to Play More and Memorize Less" won the prestigious Books for a Better Life award as the best psychology book in 2003.

Kathy is not just a formidable researcher. She has a strong interest in bridging the gap

between research and application. To that end, she has been engaged in many endeavors designed to affect change on the ground, including, as one of the organizers, together with Roberta, of the highly creative, Ultimate Block Party. If you're lucky you might hear a little bit about that. Kathy received her Bachelor's Degree from the University of Pittsburgh and her PhD from the University of Pennsylvania. Welcome, Kathy.

Robert Michnick Golinkoff is the Unidel H. Rodney Sharp Professor of Education Psychology and Linguistics and Cognitive Science at the University of Delaware. That's a mouthful. And director of the Child's Play Learning and Development Laboratory. She, too, has received numerous awards for her contributions. Roberta's research has led to over 150 journal publications and book chapters, and 16 books and monographs.

She says in her bio she's passionate about the dissemination of psychological science for improving our schools and families' lives. She and Kathy also write books for parents and practitioners, including "How Babies Talk," the award-winning "Einstein Never Used Flashcards", and "A Mandate for Playful Learning in Preschool."

We're delighted to be launching their latest book, "Becoming Brilliant: What Science Tells us About Raising Successful Children." Roberta lectures internationally about language development, play, and playful learning and special development. I want to end with saying what she has put down in her bio which is wonderful. She never turns down an opportunity to spread the findings of psychological science to the lay public. We're in for a treat.

I'd like to invite you to come to the podium. They're going to be making a presentation of about 20 minutes on the themes of the book. Then I will introduce our three other panelists, and then we'll have a moderated discussion about the themes that you will have heard about.

MS. HIRSH-PASEK: Well, hello, everyone, and thank you so much, Tamar. It is such a pleasure to be here. I also want to thank Brookings for holding this event. It really is a thrill for us as well.

Roberta and I today are going to talk to you about reimagining education. So today we really do want you to imagine with us, and we are going to introduce a new framework for thinking about how we educate not only kids, but kids as they're growing up, and how there may be a suite of skills grounded and inspired by research in the science of learning that can help us best link what goes on in

education, and how that dovetails and connects with what's going to go on in skills for the workplace.

So why now? We start here with some interesting facts.

MS. GOLINKOFF: So as you may have noticed, because your desks are growing with books and journals that you can't keep up with, we are entering a new era, a knowledge age, in which information is doubling every 2.5 years. We're leaving the information age where getting the factoids was enough. Now integrating information and innovation is key.

MS. HIRSH-PASEK: Now, it turns out that because there's so much information, it's really drowning us. Think of it as torrents every day. In a sense, the world has changed under our feet. We can outsource a lot of information to robots today. So it may be that if the robots are always going to be better at we are at memorizing facts and regurgitating those facts back, maybe we need a different set of skills if we're going to succeed in the 21st Century.

In fact, author, Dan Pink, suggested exactly that in 2006 with a book that he wrote to be a business book, but which very quickly became a powerful book in the field of education.

MS. GOLINKOFF: So he said the past few decades have belonged to a certain kind of person, with a certain kind of mind. Computer programmers who could crank code. Lawyers who could craft contracts. MBAs who could crunch numbers.

BOTH: But the keys to the kingdom are changing hands.

MS. GOLINKOFF: We love that line.

MS. HIRSH-PASEK: We love it. Right.

MS. GOLINKOFF: Let's do it again.

MS. HIRSH-PASEK: I mean, we --

MS. GOLINKOFF: Let's do it again.

MS. HIRSH-PASEK: -- are into that line.

BOTH: But the keys to the kingdom are changing hands.

MS. HIRSH-PASEK: The future belongs to a very different kind of person with a very different kind of mind. To creators and empathizers, pattern recognizers, and meaning makers. The people, these people, the artists and the inventors, the designers and story tellers and care givers, counselors. The big picture thinkers are now going to reap society's greatest rewards.

I just heard last week that Jefferson Medical School in Philadelphia has decided that even medicine should not be taught anymore as memorization and spit back. In fact, they are looking for people who are designers to change the people who go into medicine and who solve the problems of our health.

MS. GOLINKOFF: Business leaders are with developmental psychologists for the first time that we can ever remember in saying that America's institutions, even our economy and our mindset are designed for the individualism of an industrial economy where everybody worked separately. But now, we're in a LEGO world.

The author of this book, Liz Edersheim is somewhere in the audience and is responsible for helping us probe this literature for the skills we discuss.

MS. HIRSH-PASEK: Now, Liz, I hope I get this right, but in a LEGO world I think one of the ideas is that just memorizing that content when it becomes frozen in place is not of use to us. Things are changing far too quickly for that. So what we need to do is arrange our mind like a group of LEGOs, and I promise, she didn't use LEGOs because she knew Sarah, really, or even Skills for a Changing World. But she thought that the re-combinatorial power of what LEGOs can do is really how we have to start thinking about the use of knowledge.

MS. GOLINKOFF: And it's so interesting that just around this time when we're having this incredible revolution in technology, and the world is changing so quickly that other groups have also said similar things. So the Partnership for 21st Century Skills writes, 'In an economy driven by innovation and knowledge the ingenuity, agility, and skills of the American people are crucial to U.S. competitiveness.'

MS. HIRSH-PASEK: And the Learning Metrics Task Force which is partially at Brookings has come to a very similar conclusion. The important piece here is that while everyone is recognizing that knowledge in numeracy and literacy is deeply important, it's not the only thing that's going to be important in the new world order. Success has to be redefined.

MS. GOLINKOFF: So interesting that many of the psychologists we interact with and read agree. That a suite of skills is required for success in the 21st Century.

So Howard Gardner argues that the disciplinary mind, the synthesizing mind, the creating

mind, the respectful mind, and the ethical mind will all be privileged in the 21st Century. Bob Sternberg, a well-known psychologist, highly prolific. He probably wrote a book while I'm talking. At Cornell University --

MS. HIRSH-PASEK: At least an article.

MS. GOLINKOFF: Right. He has said that Wall Street collapsed because very bright people who had degrees from some of the best places just kept doing the same thing over and over again. Analytic intelligence is not enough.

MS. HIRSH-PASEK: So the question before all of us is whether, in fact, we are preparing the children today for the workplace of tomorrow. In our book, we make a proclamation and that is, no, we are not.

This is true not just in the formal education system. It exists in the informal system too. It exists in how we're helping parents raise children. Because quite often, these parents, they call us all the time. My kid doesn't know enough math, and then they tell us that the child's just 2. This is a problem, so.

MS. GOLINKOFF: This is not a joke.

MS. HIRSH-PASEK: So we believe that part of the issue comes in how we are defining success. Let's start with the traditional way. If, indeed, your idea as a society is that success is based on how well you do in reading and in numeracy and in writing then guess what? Everything that you're going to do as a parent, even for little people, and everything that you're going to do in your school system will focus on reading and numeracy. You're going to take out recess. You're going to take out art. It's going to be geared to making sure that you do well in reading and writing and math. We'll talk about the problems with that in a minute.

The other way to think about it, for the 21st Century, is that we need to redefine what counts as success. Here we borrow heavily from a nation that has recently completely revamped their education system, and that is our neighbors to the north, Canada.

MS. GOLINKOFF: Anyone here from Canada?

MS. HIRSH-PASEK: The nice people.

MS. GOLINKOFF: Yeah, yeah. We love Canada.

MS. HIRSH-PASEK: The nice people to the north who always seem to be a couple steps ahead of us.

At any rate, here is something that we modified based on what they've been doing in Ontario. They suggest that they didn't want their kids to just be people who could read, write, and do numbers. Oh, yes, that's important as part of the equation. But here's what they told us. They even put it in print. That they wanted their kids to be happy, healthy, thinking, caring, and social human beings who were going to become the collaborative, creative, competent, and responsible citizens of tomorrow. Sounds like Canada, doesn't it?

MS. GOLINKOFF: Isn't that great?

MS. HIRSH-PASEK: I mean, you can sort of feel it.

MS. GOLINKOFF: This traditional approach, which we've been following, to achieve success has really not worked for us. The first generation of kids who were taught under No Child Left Behind has not done well on the international achievement tests. We haven't seen any growth as a result of that program.

What we have succeeded in doing, however, is creating a test-driven, high stress educational system where 8 year olds are in tears before they go to school knowing that they're going to take a test that determines whether they pass or not.

Even some in the military have said that our students are not prepared and that this is a national security risk because they cannot do more than memorize narrow facts. They can't think critically or strategically, let alone, navigate socially among their peers.

MS. HIRSH-PASEK: So what we decided to do for this book was to distill all these lessons. We pulled together a whole lot of wonderful people in the business community and the policy community, and we said, essentially, teach us.

Then we looked to see where there were matches in the scientific community. That is, what do we know about how children learn? If we could somehow create a synthesis from the very best science of learning that was out there, a relatively new field that's an amalgamation of areas like neuroscience, educational science, psychology, computer science, what could we finally say about how people learn, and about what success, how people could achieve success by borrowing from a suite of

skills.

MS. GOLINKOFF: So if you want one thing to remember from today think of the word breadth. Because we are arguing that to succeed in the 21st Century, not only our children, but children around the world will need to have breadth. Breadth meant in different ways. We used to think of the schools as being responsible for teaching children. We cannot think this way any longer. We have to think of children being educated in and out of school, so a breadth of context.

We used to think of learning as taking place, essentially, K through 12, and then a proportion of our population went onto college. We can't think this way anymore. We have to think about a breadth of ages, life-long learning, prenatally through senescence. We really have to have a big picture of people learning because their lives are changing so rapidly. We don't want to be left in the dust.

The third dimension of breadth is the breadth of skills that we will be spending most of our time on today. Content is great, but it's not enough.

So how are we going to do this? How are we going to achieve success with skills that have not been discussed that much by the general public? Well, we're going to present today skills that are grounded in the science, that are interrelated, that are malleable, so we can push them around and educate kids on them, and that are measureable. Content must continue to be one of those skills, but in addition, we want to talk about collaboration, communication, critical thinking, creative innovation, and confidence.

MS. HIRSH-PASEK: Now, this view of breadth allows us to define success globally and to achieve it locally. That's really important. As you think about different countries in the world you don't want to have people in a straightjacket. They have to achieve these skills all in the same way.

So we try to think of a metaphor, and the best we could come up with was the human body and the clothes that go on it. Now, it turns out that the body is as the body is. Human beings all have a head. They have two arms. They have two legs. That's the core. And from a psychological point of view, from a scientific point of view the suite of six skills that we are talking about is the core. We believe that is the indispensable system. Mind you, this is just one of these systems in "Skills for a Changing World," but it's the one that we think is inspired by the scientific perspective.

Now, you can, however, achieve these skills in multiple ways. In the same way that you

could wear a sari or you could wear a toga, or you could be wearing a t-shirt and jeans. There are many ways to achieve these skills, but they all have to fit on the core of the human body.

MS. GOLINKOFF: So what are the skills that we've been alluding to in a little more detail? Collaboration is the first. Humans are social beings at their very core. You know when you know this? When you have a baby and they make eye contact with you from the first moment. I see people shaking their heads. Working in teams is at the center of scientific exploration and new business models and requires that we know how to pay attention to what others are saying, how to control our own impulses so that we don't say, "Oh no, that's a bad idea." That'll make you a lot of friends. And how to integrate the information that we learn from others. All this involves collaboration.

MS. HIRSH-PASEK: Chiming in as the side kick. I want to let you know that collaboration in the psychological model is the basis for everything. If you don't have strong social relationships, if that is not in the system then nothing else moves forward. So, again, this skill is grounded in the science with many, many studies to support it.

MS. GOLINKOFF: Communication. It must be built on collaboration because you have to have another person out there to communicate with. Think about the myriad of ways in which we communicate. Language is happening right now. Reading and writing and that all-but-lost art of listening. We know from research that language is the single best predictor of academic and social development.

In fact, at the age of 2 ½, Carolyn Roven has shown that children who have better language have better self-regulation. Probably because they can talk themselves down if they have better language.

Content. So we can't throw out content. We absolutely have to have content. But it's only one of the six Cs that is central to development and success. Of course, when we emphasize the three Rs, we're leaving out science, social studies, and the arts. As I read a few years ago, there were schools in Florida throwing out science because they didn't have time to do it because they were emphasizing reading and, this is true for the arts as well.

So this also includes how we learn. Executive function skills are things like memory, attention, flexible thinking and planning. These are crucial because when you encounter a new task these are the skills that you call upon to learn in that new domain.

MS. HIRSH-PASEK: Side kick's coming in again.

MS. GOLINKOFF: Go ahead.

MS. HIRSH-PASEK: To say that at this point you may be wondering, "Oh my gosh. What's going to happen to the reading and math scores if we try to do things like help people be social and learn how to learn?" We know the answer to that.

MS. GOLINKOFF: Yes, we do.

MS. HIRSH-PASEK: The answer is. They do better --

MS. GOLINKOFF: It will only get better.

MS. HIRSH-PASEK: -- in the standardized test scores of reading and math if they master these other skills.

MS. GOLINKOFF: Critical thinking is essential because with content exploding we have to be able to make selections from among all the information that's out there to solve the problem at hand.

When we think of critical thinking you might think of these verbs: compare and contrast, select, analyze, and synthesize. Creative innovation, you have to have content, and you have to have critical thinking to see where the holes are. Education has to promote flexible adaptation to changing circumstances.

There has been a claim that children will have ten jobs in the future, eight of which haven't been invented yet. So if we don't educate our children to be able to creatively adapt to new circumstances they will fail.

Finally, confidence. The ability to try new things and take risks. We have children today who will not take on challenges because when the emphasis is on getting the right answer on a test item in a bubble test you don't want to venture out and try difficult problems. But we need our kids to persist and learn in the face of failure.

In the era of the knowledge worker, economic viability relies on having the confidence to take informed risks.

MS. HIRSH-PASEK: So one of the things I do want to add here is that any one of these individual six skills seems to pop up in the news every so often. So today you're going to hear a lot about

grit because Angela Duckworth just came out with her famous book on grit. You hear a lot about the growth mindset because I think everyone in this room probably knows at this point that you never say, "Wow, you're great." You always say, "Good effort."

And that the good mindset --

MS. GOLINKOFF: Carol Dweck.

MS. HIRSH-PASEK: So the point is that we are making progress in knowing how to study these things and how to measure these things. What is very unique in the model that we're presenting today is that we're not just talking about a proliferation of skills. We're talking about an integration of skills.

Each of the skills that Roberta just talked about builds on one another, and builds on one another in a scientific model so that you can see how it's getting more and more complex over time. It also goes through four levels from immature to mature based, again, on the scientific literature. So let me take you on that journey so you can now see how the whole model goes together.

Here we are starting with collaboration. You all are in offices. You all know that there are people that are terrible collaborators. They're the ones who sit in their little cubbies and they, frankly, don't care what you're doing. Then there are the side-by-side folks. They really want to know what you're doing, but they just want to know what you're doing so they can do something a little bit different. They're noticing, but they're not really integrating with you. You know these people, right?

It's true in kidhood too. We call that parallel play.You never really lose it as you grow up.

There's the next group which we could call the back and forth. Think of that as similar to a tennis model where one person hits the ball and the next one hits the ball. Here, again, you see that in the office. One person writes a paper, and then I send it out to you when it's completely done for your edits, and then you send it back to me so I can edit your edits.

Then at the last stage we have those who actually know how to build it together. Those are the kids who literally start with what they want their architecture to look like, and then they go get the blocks and start to assemble it together.

MS. GOLINKOFF: So I would just comment that you note that the examples that Kathy uses are from adulthood as well as for kids. That's because, as we'll show you in a moment, we think the

six Cs really do apply to us as well as children.

MS. HIRSH-PASEK: So moving along, we started with collaboration. We told you that was the foundation, the social foundation that needed to be there. If it's not there you're building the model on quicksand. It moves into communication. Communication, too, has four levels. Then we move from communication. Note, each of these builds on the next. Content demands that you have communication. If you can't read about it, if you can't talk about it and you're unlikely to learn about it. Critical thinking builds on content. You have to have something that you're going to be critically thinking about, and if there's not enough information in there then you can't really solve the puzzle critically.

Believe it or not, creativity too. They talk about the 10,000 hour rule. If you don't have enough content in there you're not going to be truly creative. Finally, Roberta talking to you about confidence. When you have that information, when you can critically think then even there you have to ask, do you have the guts to give it a whirl?

MS. GOLINKOFF: So I hope you have these all memorized because they will be on the test.

MS. HIRSH-PASEK: Let's do a deep dive into critical thinking because I think you see this so often where people are at low levels of critical thinking. We use this model, by the way, in our college classrooms, and we know people who are using it in preschool classrooms. We have friends that are using it in businesses to help people grow in their corporation. So let me just give you critical thinking for a moment because we all know that seeing is believing.

These are the kids who come in and they look at the textbook in your college classroom and they go, "Whoa, you said something else in class. But isn't the textbook true?"

MS. GOLINKOFF: But it is in black and white.

MS. HIRSH-PASEK: Yes. Then you see, you give them two textbooks. I used to assign two textbooks in my class. They were just torn by this. They were horrified. They came back to me and they said, "Oh, oh, I guess truths differ, but the one that I believe in is right." You see this a lot in politics, by the way, and since we're in Washington --

MS. GOLINKOFF: But we're not going there.

MS. HIRSH-PASEK: Okay. Next is that you come to realize that maybe they're thought

out opinions. Maybe somebody actually used the information and tried to align the pieces to tell a kind of narrative. Of course, at the top level it's using the evidence to try to, really, in a convincing and compelling way move the system forward.

As we said, there are people that have studied these levels, who have helped children move through these levels, helped adults move through these levels. I know, some you can't, but many you can, measure what it takes to move through these levels.

Now, the model doesn't stay static. Once you have achieved a higher level in this model it doesn't mean you're done. You have to constantly be revisiting it as you learn newer and newer content. It's like a spiral staircase.

Here you see our best attempt at trying to make a spiral visually. But imagine when you're at the top of the spiral staircase you can look down and see where you were before, but you may well have a different perspective.

MS. GOLINKOFF: So we want you to know too that there are tools out there in the world to measure the skills that we are positing, and that's because we've pulled them from the science of learning. So, for example, up on your right you can see a picture of eyes. There's actually a test that can assess whether an individual is sensitive to the social cues of others by whether they can accurately predict what the emotion is that those eyes are showing.

For communication there are many tests that test language. For example, Kathy and I just created one that uses language comprehension to see where 3s, 4s, and 5s know about language. Critical thinking, DeAnna Coon has a set of levels, as Kathy just said, as does Diane Halpern.

MS. HIRSH-PASEK: Further, each of these skills is malleable. We chose the skills as skills that the literature suggests can be moved. That is, people can get better at them with the right kinds of input, and the right kinds of experience.

That means that over time, if you view time across the bottom, you can see that kids don't have to stay static. If we put the right stuff in our homes, in our communities, and in our schools we can actually reduce some of these achievement gaps.

MS. GOLINKOFF: The six Cs allow us to reimagine what education could be, and the thing that we think is so exciting is that it allows us to think about a 21st Century report card. We can

evaluate ourselves on this grid, and decide where we think we need to beef up our skills. We can evaluate our children and think about the kind of experiences that they might need to work on some of these skills. We can evaluate our schools, and we can think about how to manifest these skills in activities that take place in the classroom.

If children are always sitting in rows and listening to teachers talk at them which, unfortunately, is the current model in the United States, they're not going to have an opportunity to engage in the collaboration and communication that they need to to advance themselves in the world.

MS. HIRSH-PASEK: I just want to add that this also works for informal spaces.We had a wonderful experience working with the Children's Museum of Manhattan. We were talking about an exhibit that they put together about Muslim culture. In that exhibit you look through and you say, well, am I giving the children an opportunity to engage in each of the six Cs? What did I put in the exhibit that's going to allow them to grow?

In one beautiful case they have a boat, and the boat is leaving across the ocean to go take exports to other lands. Well, you had a choice. How were you going to get the stuff on the boat? One is one kid could do it alone. Pick up the stuff, put it on the boat. But what they decided is that one kid would have to load the information, would load the boxes, and then another kid with a pulley would make the box go up, and another kid, at the top of the boat, would then take the box off and put it on the boat.

MS. GOLINKOFF: So building in collaboration is a way that we can set up these exhibits to make sure that it happens.

MS. HIRSH-PASEK: So how do we create these environments to nurture each of the six Cs in school and out of school? Out of school. Believe it or not, children spend 80 percent of their waking time out of school. What are we doing to optimize growth and learning societies outside of school?

I want to give you an example that we're doing in Philadelphia right now and we are hoping this will grow. It's called Urban Thinkscapes. What if, using the six Cs as a model we literally just transformed the cityscapes around you? What if we made the natural places that people go into learning platforms? Fun, playful areas where kids could learn.

Here's one example. We start with what we call the puzzle bench. Now, a lot of people use the bus in low income environments, and in these low income environments they don't have as many puzzles. Roberta and I have found in our own research that just as there is a 30 million word gap, there is a spatial gap. That gap translates into lower mathematics when the kids to readiness for school at kindergarten. So could we help? Could we transform that bus stop into a place where kids were doing puzzles at the bus stop?

Even though they don't have the puzzles at home might they get them through the community? With Brenna Hassinger-Das, who is also in the audience today. Bren, raise your hand. She is the woman who's been leading this charge. We actually are building this in the City of Philadelphia in a promise zone.

Over to the right, by the way, you are seeing a real communication getter and creativity. The Cs of communication and creativity. That is from our animated street light. A child turns the wheel on the street light, and the light then shines below to create animation on the sidewalk.

MS. GOLINKOFF: Think of the collateral benefits from doing that with a parent because the parent is talking to the child, so there's a lot of communication going on, a lot of collaboration, and the conveying of content that might not have happened otherwise.

So another thing that we've done is emphasize opportunities for playful learning. Playful learning is the crucible in which these six Cs are developed. Playful learning then becomes a metaphor for engagement in learning. We have done a number of studies using blocks showing that when parents interact with their children around blocks, and a common goal, children hear a lot of spatial language like over, under, between. Why is that important, spatial language?

Because when children hear a lot of spatial language, later on they're better on spatial tasks and better on math tasks. Think about how much language is relied upon even in mathematics.

MS. HIRSH-PASEK: So the six Cs really are giving you, I think, an example of what we can do within the Skills for a Changing World initiative. Let's increase the way we think about breadth of learning, and the kind of skills that we can include in this learning as the children grow up and we try to meet the problems and the challenges not only of today, but of tomorrow.

MS. GOLINKOFF: Evidence from the science of learning, which we've tried to

encapsulate a little bit for you today, certainly does support a wider discussion around the importance of breadth in education, and education broadly described too, both on and out of school.

In fact, the six Cs and the grid that we presented to you today shows you the thread that illustrates how the six Cs are growing over time from the sandbox to the board room to the laboratory to any place that people work.

MS. HIRSH-PASEK: We were really only able to give you a snippet of some of the thinking that we try to flesh out in the book. But I hope that you'll leave today with not only breadth emblazoned on your forehead, but also, rethinking, what do we really want? What do we want as a society? What counts as success for our children? Roberta and I would at least like to try to move that conversation. Society thrives when we craft environments in and out of school that support happy, health, thinking, caring, and social children who are going to become collaborative, creative, compete tent, and responsible citizens of tomorrow. Thank you.

MS. GOLINKOFF: Thank you.

MS. ATNIC: Thank you. That was terrific. May I ask the rest of you to join us here as well?

So we're going to be building on the snippets that Kathy and Robert talked about in this panel discussion. Then I promise you you'll have an opportunity as well to ask questions and provide your comments. Let me introduce the other speakers on the panel, if I may.

I'm going to start off with Sherry Cleary. Sherry is the executive director of the New York Early Childhood Professional Development Institute. The Institute is a unique public/private partnership that brings together city and state agencies, a consortium of private funders, and the nation's largest urban university, the City University of New York, to create a center that coordinates the establishment of a workforce system that will ensure funding, standards and competencies, career development resources, qualifications and credentials, training, and program quality assurance for individuals who work with young children throughout New York. That was one sentence.

Sherry has been involved with everything I think you can imagine and more to help build essential systems to ensure a highly effective early childhood workforce for the State of New York to guarantee that young children have access to excellence. She has worked in the field of early childhood

education, first as a classroom teacher, and then in administration for 40 years.

She has also been in Departments of Education, Human Services and Early Childhood at four institutions of higher education before coming to the City University of New York. Welcome, Sherry.

Susan Magsamen. She is senior vice president of early learning at Houghton Mifflin Harcourt, and in that capacity Susan focuses on providing evidence-based programs for children birth to 8 years, their families, and childcare providers. She has over 30 years' experience in developing effective learning programs rooted in the science of learning. Susan is an active member of the brain sciences research community. She currently serves as a senior advisor to the Science of Learning Institute and the Brain Science Institute at John's Hopkins University.

She is the Chair of the Center of Innovation and Leadership in special education at the Kennedy Krieger Institute, and as associate editor of NPJ Science of Learning. Susan cofounded the John's Hopkins Newer Education Initiative, and was also founder and CEO of Family Stories and Previously Curiosity Finds, both award-winning learning resources for parents and children.

She's also a member of an array of organizations and groups that aim to enrich children's lives. Susan holds a Master's of Advanced Studies from John's Hopkins University. Welcome, Susan.

Last but not least, Sarah Wolman. Sarah is head of partnerships in North America for the LEGO Foundation. The aim of the LEGO Foundation is to empower children to become creative and engaged lifelong learners. Sarah leads program partnerships in the North America region, including the Early Learning Fund with New Profit, and the Play Every Day Initiative with Sesame Workshop.

She also helps to organize the LEGO Idea Conference which convenes thought leaders, researchers, and practitioners around learning through play in Billund, Denmark each year. Prior to joining the foundation in 2013, Sarah worked as a consultant to foundations and nonprofit organizations around strategic planning and education partnerships for nonprofits in New York City and New Jersey supporting low income and underserved youth children and families, and for New York City government, including for the Office of the Major and for the Administration for Children Services. Sarah has a JD from Columbia Law School.

So that was a fantastic presentation and I'm sure many of you are inspired and have questions and comments. What I'd like to do is maybe go a little bit deeper in some of

the issues that have been raised. I'd like to organize the conversation around three themes that come out of the presentation.

The cultivation of skills to become brilliant. First set of questions will be around the what, what skills, and we already heard quite a bit about that. The second would be the how. What are the modalities, the environment, at which point in time should we be thinking about developing these skills? Third, I'd like to talk about what efforts are going to be needed to galvanize support for this important agenda.

So let's start with the "what". I'm going to throw out some questions. Some are going to be directly addressed to individuals, others, I'm hoping somebody will pick up on and will start the conversation.

So I want to start off with what we heard about the science of learning and the framework of the six Cs that they presented that clearly emanates from the Science of Learning. I wanted to ask what we know about the importance of skills, including, but going beyond content, globally. In particular, we heard some evidence about how grit and perseverance matters for performance later on in life. What do we know globally about the importance of these skills, and especially if you have some access to the literature from the developing world, I think it would be great to hear about that.

Much of what we know in this field really comes from the developed world and, obviously, we're interested in this agenda globally. Could I start with Roberta?

MS. GOLINKOFF: Sure. So over 200 million kids in the world are living in poverty and under stimulated. In Jamaica an experiment was tried. They looked at children who were stunted for lack of nutrition, and they gave one group additional food. They gave another group additional stimulation in the form of home visitors who came in for two years, simply an hour each time, to show parents how to interact with their kids. Because these are families that were very poor had no toys and nothing around, really, of the standard nature to play with.

So, for example, they would take a cup and tell the mother that all she needed to do was talk about the cup. We can have your porridge in the cup. We can pour your cereal out into the sink, you know, all the different crazy things you can do with a cup. They also had a group that received both nutrition as well as stimulation, and a non-stunted control group.

When they went back 20 years later they found that the children who had been in the group that received the extra stimulation, not even the extra food, just the extra stimulation. Those kids were earning 25 percent more than the other groups and looked indistinguishable from the non-stunted control group.

So what were these parents doing? They didn't even have toys. What they were doing was feeding their children's brain development. It is so important to have conversations with children and to talk to them about things in the world. That those are the kinds of intervention that made a huge difference in these children's lives.

MS. ATINC: Kathy, do you want to add?

MS. HIRSH-PASEK: I'll just add to say that there's not a lot of research that's gone on in underdeveloped countries. In fact, I'd say it's really been only in the last 20 years that you've seen low income families in developed countries that are part of the scientific literature. So there's a lot to learn.

I want to put a "however" in it. The "however" is that we are talking about little human babies. The way kids learn is the way kids learn, and the brains that kids have are the brains that kids have, and the social interactions are the social interactions. And so I don't want us to conclude that because we don't have papers that have come from undeveloped countries or underdeveloped countries that we don't know anything about the growth potential of the people in those countries.

So I think what we are learning, in particular, this field of science of learning is very new.

We're talking what? Ten years, all right? It's not even in its adolescence yet. But we know a lot. I think if we can begin to use that as the core, maybe not the gold standard, but the core that we can make a different in underdeveloped in the same way that they did in Jamaica.

MS. MAGSAMEN: I want to say, first of all, thank you, both Kathy and Roberta for such an amazing book. It's really spectacular and really a great contribution.

I also wanted to say that at Johns Hopkins, we've done quite a bit of work in public health, looking at global issues, and I totally agree with you that when you're really looking at human development, its human development. The conditions are different in different parts of the world, but we do see maternal health being really important. We see the influence of stress and environment being really important. Nutrition being fundamentally critical for brain development, health brain development in

vulnerable children, no matter where they are.

I think public health is very much a part of the science of learning. I think that it's ubiquitous, and so there's a lot to learn there as well.

MS. ATINC: Thank you, Susan. That's an interesting comment bringing in health. It reminded me that we actually have global growth curves. The expectation is that all children physically grow, essentially, in the same way and at the same pace as they mature. So if physically that's our expectation, perhaps in the domain of acquisition of skills that is also the case. But that's, at the moment, I supposed a hypothesis that still remains to be seen.

MS. MAGSAMEN: Do you remember Annie Murphy Paul wrote a book called "Origins" several years ago and she showcased a situation where children -- moms ate tulips because in Holland there was no food. Those children were born with a propensity for diabetes and heart disease, and so I think there is some really interesting work that's been done on the medical side that helps to support some of that too.

MS. ATINC: So we heard about the six Cs framework and it certainly sounds compelling to me, and that it covers everything that I would want to have worked on with my children. It's too late now, but --

MS. HIRSH-PASEK: Becoming Brilliant, Again.

MS. ATINC: A large number of frameworks are out there. People talk about, more or less, the same kinds of skills in different ways. I'm just wondering, and Sarah, this question goes to you. Do we have a consensus on the types of skills that really matter? Across all these different frameworks, the terminology, do we have a consensus?

MS. WOLMAN: I think that there is a consensus that this is what works for children. I think there's a disconnect between what we know about how children learn and what we do with them.

We can't seem, and I think this is an American problem, I tend to think it's an American problem. We seem to have an overly developed need to be in control of children to the extent that we then take over and we don't do what we know works.

But this very nature of the way children grow, develop, learn they are born driven to process relationships, knowledge, information in this context, in this web of strategies. I think in our effort

to control outcomes we have abandoned children for approach, for curriculum, for didactic instruction so that we can feel better. But we've never been comfortable suspending our own needs for the needs of children in this country.

So what I would say is when I read this book and thought about its message, for me, it's about trusting children and trusting teachers. In this country we trust neither. We script teachers because we don't trust them to understand this framework. We certainly don't trust children to manage their days in this context.

So I'll say that to get us started. Every educator knows that all learning is relationship-based, so communication, relationship context, and yet we abandon that the minute we get into the classroom. We just abandon it, so.

MS. MAGSAMEN: Yes. I do think this is a global challenge, and I agree that I think it's a special kind of challenge here because of the pressures we place on our systems. But we do see in countries around the world is that very different pressures and very different contexts somehow tend to create the same challenges. There are very few countries in the world that truly value childhood and children as natural learners, as naturally curious, as our role models.

There are also very few countries that are able to implement the kinds of policies that really value how children naturally learn through play. What's interesting is I really agree that there is an emerging consensus, but I think the panel is right that that consensus is not translating into practice, and so I think the hardest question is how our systems value certain outcomes or certain definitions of success, so, ultimately, we can all agree on the inputs. We can even agree on methodologies, which we don't, but let's say we did.

Unless we start to vote with our feet and evaluate what success looks like for our systems around what progress looks like, and this is where I think that continuum around the six Cs is really a tremendous contribution to the sector. I congratulate both of you. I think it's not just a great book, but I think this is that one chart that appears twice in the book, I really urge everybody to take a look at that. It's deceptively simple, but the science behind each of those two and three word phrases is so deep.

If we can start to get some consensus around how we measure, not only children's

progress or what quality looks like in a classroom, or in an afterschool program, or in a community. If there's some consensus around what quality looks like I think we totally transform the sector in a completely different way than just reaching consensus about the skills we seek to develop.

MS. ATINC: Go ahead. Then I'm going to build on those points.

MS. WOLMAN: I'll just add to that, that I think the sociology of this is so interesting, and coming back to a consensus is, A, very important. But, B, I also think that it begins to start to help us look at what do we value in a culture. Do we value mothers? Do we value, you know, flexible work time? Do we value teachers by paying them what they're worth? By giving them the services and skills?

So I think having this very clear, elegant six Cs allows us to say, yes and quiet down the noise. You know, every day there's always a new framework. Let's hold one message and build from it and go to mastery, as they've pointed out.

MS. ATINC: That is my question, in particular, to you Kathy. In that quest for trying to get things into practice, would it help to have one terminology, one framework that most people can come around or do these proliferations of language and frameworks actually inhibit the ability to bring people around?

MS. HIRSH-PASEK: I'm of two minds, to be honest. On the one hand, I think what we don't want to do is pigeon hole great ideas so that you can only use one set of terminology. I think creating the umbrella so that the community of people thinking about these issues can get together under a Skills for a Changing World is really, really important.

Where I'm of the other mind, however, is that we spend a lot of time proliferating my favorite skill. What happens is these become disjointed little pieces that are then celebrated all over, and they're not united in any way that really makes sense. And so we burden teachers, and this, I really feel terrible about. In fact, I'll even give you an analogy.

I was recently with the person running early childhood for the State of Pennsylvania and she said that running early childhood often feels like she's managing an emergency room. She said, you're just trying, at this point, to keep the person alive because we're always given something else that the teacher's supposed to do. But the point is that that's not what we should be doing. It's not the next thing to break the back of teachers who are really trying.

What we need to do is to have this unified vision, whether it's our vision or someone else's vision that at least shows the integration of the skills. I think the first part of that really rather than, again, trapping people into language, per say, is to say, "okay, here is what a broader, integrative report card, so to speak, would look like" so that we broaden our mind and parents' minds and teachers' minds into even knowing there's something beyond content.

MS. ATINC: So I want to talk about measurement. You raise it in your presentation in terms of these skills being not only malleable, but also measureable. It came up here as well.

We currently measure math and reading and sciences. How well we do that may be open to question, but we measure them and we have some sense of, you know, how kids are progressing as they go through school. So the question really becomes if you're going to make a case for the importance of those skills I don't want to wait 20 years until I see my child getting a good job somewhere.

I want to know that progress is being made. So where are we on measurement? You mention a few tools that scientists have developed and used. Are there instances where there is system-wide use of measurement that helps guide practice in and outside the classroom? Is this possible? Is this something we should be aiming for? I want to turn to Sherry because she's been working in the --

MS. CLEARY: Trenches.

MS. ATINC: -- New York State, yes.

MS. CLEARY: So one of the things that we've been doing, of late, is helping New York City pre-K teachers think about the way they assess children in an authentic way so they can craft really good programming for them, and to try to be individualized and to differentiate instruction for children based on what they need. Not based on a centralized curriculum that is out there, but to use those curriculums as guide, but really to key in on the children.

On Thursday, my office is training 4,000 pre-K teachers. I'll be in Baltimore. It's just great.

MS. ATINC: Oh, my god.

MS. CLEARY: They'll handle it. I think there are ways to train teachers, help teachers really gather as much information as possible about children, not just doing assessment of skills alone. This has become interesting because the field ends up gravitating to skills alone assessment, but we've

been working very hard, with great success, helping them to understand that how you encounter family and family and child relationship. How you look at that. How do you measure that? How do you let that inform the way you teach children?

Looking at all kinds of different ways to get information. So we're working on this very thing. I believe that you can assess children. It's just harder than a checklist. I feel like we always want a checklist. So people have to appreciate that the work we're talking about is complicated and requires complicated thinkers. Really a stronger workforce, and a much better supported workforce.

The other thing I'll say is that we've had assessments across the years, valid assessments that really do look at children's reasoning ability, their thinking capacity. We generally move away from then when we're in this accountability-driven society. So very quickly I'll tell you there is a lovely kindergarten assessment tool that doesn't ask children -- it asks children thinking questions like, what makes a cloudy day bright.

If you're four and a half or five years old, that requires some thinking. We don't say what does the sun do? We say what makes a cloudy day bright. Another question is what's faster, a horse or a train? You really have to think about it if you're a little person.

One of the questions is what's the color of an apple? You really can gauge the capacity of a child. Some children say red and it's the right answer. But some children say, well, it depends. There are red apples. There are green apples. There are yellow apples. Do you mean the outside of the apple or the inside of the apple because when you bite into the apple it's white? Whenever I talk about it, it give me chills because that gives you insight into who this child is, and how much they have been exposed to, and how much they've been engaged with others.

So the whole idea of communication and innovation, all those Cs work in this assessment of deeper knowledge. So I'll pass back.

MS. ATINC: That's very nice. Thank you. I'm going to ask Sarah to chip in as well. One of the questions on my mind is while math and reading and science may translate quite well across cultures and across context, many of the skills that we're talking about that are non-content are really, deeply culturally rooted in some ways. Communication, collaboration. It really takes different forms in different cultures.

So I just wonder about the cultural relativity, if you will, and the potential for having assessments that are valid across different context? But Sarah?

MS. MAGSAMEN: The other thing you're hinting at, I think, is the means to the end as well. So I think it is a little bit of a dangerous prospect some time when we separate out literacy and numeracy from these other skillsets. I think Roberta and Kathy put it really well when they talked about the integration of the six Cs. Not only is the brain an integrated place, but it's also the case that when we work to cultivate these other skills we also know from their research and others, we know that kids also do better on traditional measures.

So the development of, you know, or towards learning outcomes, even traditional learning outcomes like literacy, numeracy. When you think about the how you really can get a bigger bang for your buck. You know, you can develop skills along the way to achieving learning outcomes, both of the traditional and non-traditional type.

So I think part of the idea that's coming out of this discussion is also not only how do we make great learning visible, and I loved your discussion about the open-endedness of the question and the answer. How do we make learning visible? But also, how do we empower adults so -- and I will say empower adults to value that kind of learning because I think most teachers, and it didn't come out in my bio, but I spent many years in the classroom and also working with other teachers in their classrooms.

One of the things that I think has happened to teachers who are really oppressed by so many different kinds of complex and counterintuitive requirements is that they are not empowered to trust their own instincts about what great learning looks like, and what they're trying to cultivate in young people.

So I think we can empower adults to recognize that process in addition to the outcome. It's not just about whether the child is able to read the sentence. It's also about what happened along the way. What was the how of learning to read that sentence? We know that learning through play or learning in active, hands-on ways, collaborative ways, ways that require communication, ways that support inquiry. We know that kids can reach those same outcomes, in some cases, better, but they learn so much along the way that they're becoming not just better readers, but better people.

MS. ATINC: I mean, listening to the group, having heard the presentation, this sounds

like a no brainer. So why isn't it happening? Who stands to lose? Who are the detractors or who remains to be convinced is one question I have?

Are teachers allies or in some instances are they likely to be overwhelmed by, yet, another demand on their time when they really are underpaid and overworked?

MS. CLEARY: There are allies. There are teachers who would feel incredibly liberated if somebody came to them on a Monday and said, "we'd like you to do this". Because what this is is how they -- most of them were trained, traditionally. This is how children learn, so it's consistent with their philosophical framework.

There are other teachers who would find this very challenging. They haven't been taught this way. They're under tremendous pressure to be didactic and to get those lessons in regardless of how ready or how able the children are to process them. So this kind of a revolution speaks to liberating some teachers and providing them with technical support to succeed in the beginning.

Then it requires a different way to look at current teacher education and how we support teachers who would need to make the shift. One of those ways is, of course, shifting the way we prepared teachers. But more importantly, almost, is how we support teachers in the room. We're moving very dramatically away from professional development where teachers come to a session and are taught something, and we're moving towards in the classroom coaching. So at in the moment kind of supporting teachers to identify what's happening in real time, and make adjustments that would meet these criteria.

MS. ATINC: Roberta, anything on this?

MS. GOLINKOFF: I think I'll wait.

MS. MAGSAMEN: We also do it on the cheap. You're talking about impediments. I just think the big elephant in the room is that we talk about children being our future, yet, we don't really invest in them at the level anywhere near what's required. So to do what Sherry's talking about takes resources. It's not throwing money at a problem. Its training. It's education. It's providing opportunities.

MS. GOLINKOFF: Exactly.

MS. MAGSAMEN: We don't fund the system.

MS. HIRSH-PASEK: That's clearly an issue.

MS. GOLINKOFF: I think we really need to re-conceptualize learning. So when we think

about learning is how kids do on bubble tests which, unfortunately in the United States, we are it is very narrow. It's laser beam narrow. From our own research, Kathy and I have discovered that, kids can learn when we teach them stuff didactically, and around the United States now you can see kids sitting in chairs, at desks, on rugs, and listening to teachers.

But we also know from our research and the Science of Learning that this is not the best kind of learning, and children can take what they've learned and bring it to new situations and problem solving. The educational word is transfer, when they have learned in a way that evokes the six Cs because they're active. They're engaged. The learning is meaningful to them and they're socially interacted.

There is research out there that shows that this is the kind of learning that children can take into the world. So when we define learning so narrowly we shoot ourselves in the foot. Because our children really can't use that which, we think, that we're teaching them.

MS. ATINC: I want to start with doing this both in school and non-formal settings. I'll start with Susan. Sarah, feel free to jump in.

Could you elaborate, Susan, a little bit the roles that families play? The very important role that they play both before our children actually get to school, but even accompanying them during the course of their education? Again, I look at issues because I'm a development professional very much with that lens. The question on my mind is, how realistic, really, are our expectations that poor, uneducated parents that have to spend most of their time eking out a meager living well become the agents for the children? How realistic is that expectation in that setting?

MS. MAGSAMEN: A couple things. One is, I think that it is an imperative expectation. I think every child deserves that when they're brought into the world. I think this is absolutely the expectation that we have to have of each other, and we need to help each other.

You know, our stories begin at home with their -- they happen before we're even born. So I think there's a real opportunity to not ask parents to do more, but to change the lens on how they are in that environment. They are there. The question is how they're seeing that.

You know, it's like when you flip a switch and suddenly you see, ah, my child smiled back at me, you know, the oxytocin that happens there. The connection. The bonding. I think it's imperative

that we create a culture of learning in the world. That it's about how we support each other and how we grow. I don't think it's a, is it realistic. I think it is absolutely what humanity is. It's the definition of humanity.

Then I'd like to turn this over to Sarah and collaborate with her on the answer.

MS. CLEARY: I love that you said it's a moral imperative and I totally agree. I also think it's realistic. So we are finding that across the spectrum, both socioeconomically, geographically, in all different kinds of cultures we are finding that parents, other community leaders, adolescents, policy makers are able to shift their mindsets. Often, you know, fittingly, I think often the thing that helps change mindsets is to engage adults in this kind of learning rather than telling them that this kind of learning is effective. To engage them in hands on active collaborative learning.

Look at a program in Uganda, like Lively Minds. These are, you know, mothers, members of the community who literally believed that a lot of the things that we know are great for brain development, believed that they were harmful to their kids. So I think part of this is about working together with communicates in locally appropriate culturally relevant ways. Partnering with members of the communities to co-create messaging, so it's not messages from, you know, John's Hopkins or the LEGO Foundation to say, this is how to interact with your child.

But its messages from within the community that are co-designed. I think that mindset change, frankly, is one of the biggest blockers right now is that our policymakers, even those who open their minds, the question is, and I think we have to own some of this as a sector. I don't think we've really come up with a great alternative.

When we say, you know, a checklist is not appropriate or you can't boil down, you know, weeks and weeks of collaborative learning into a grade I totally agree. But I think as a sector we have not yet risen to the challenge to say, here is something you can use to assess quality so that you know you're putting your dollars in the right place.

MS. MAGSAMEN: We make parents feel incompetent.

MS. CLEARY: We do.

MS. MAGSAMEN: And stupid. You know, we don't say, giggle and have joy. We say Google and get the information. You know, we constantly are making parents feel stupid. That's

completely on us.

MS. HIRSH-PASEK: I wanted to bring up that wonderful example, Susan that you and I saw with Roberta at the Ultimate Block Party. We had these 28 activities all born from science that were in Central Park, and over 50,000 people came to sample the Science of Learning.

So one of our activities, remember this, was bilingual bingo. We were actually sure bilingual bingo was going to be the failure.

MS. MAGSAMEN: A bust.

MS. HIRSH-PASEK: But, believe it or not, a lot of people came and, thanks to Sherry, a lot of the Spanish speaking population came. They had their flyers in the one hand, and they walked into bilingual bingo.

I'll never forget this one mother. She was standing so tall and she's holding her child. She probably was told what every other Hispanic mom is told, "Don't speak your own language to the kid. That's harmful. Your kid has to learn English." So this woman is so tall and she looks at us as she is leaving the exhibit. Okay? Holding her child's hand, and she said, until today I never knew that having two languages was a good thing.

MS. CLEARY: It's a really good thing.

MS. GOLINKOFF: Our messaging is so off. I'm so glad you said that, Susan, about what matters. I spoke in North Carolina and a woman came up to me after, because what I emphasize when I speak is how we can get zero budget smart and well-adjusted kids because it's about talking to your kids, playing with them with things around the house. We don't need fancy electronic toys. The word that hasn't been mentioned here yet is tablets which only came into the world in 2010, and are revolutionizing child rearing, and now always in a great way.

So a woman came up to me and said, I have a very -- she works with poor women. I have a very poor woman who has literally saved her pennies. She has forgone food to get her child an iPad. That broke my heart because everything that woman needs to help her child succeeds in life is in her own person and her own environment.

We have convinced more poor people than well-to-do people that without this technology your child will be left behind, and there is nothing that you can do. So in our culture we know that many

people spend lots of money on toys that their children get bored with. They would rather play with the box where the creative opportunities are malleable. These are the kinds of messages that we have to get across.

MS. ATINC: So since you raised tablets and technology let me then pick up on that question and say, we know technology is expanding at a very rapid pace. It's changing the way we work. It's changing what we do. As you said, we don't know what the occupations are going to be down the line.

In what ways is technology an aid to this agenda? Is it through putting tablets in kid's hands? Clearly not from the answer we got here. Is it an aid in supporting the teachers and the parents in terms of providing them help on how to engage? How do see the role of technology, I guess is the short question?

MS. CLEARY: For me I think the technology is just another example of the how. Right? It's all about how you use it.

MS. GOLINKOFF: Mm-hmm. Exactly.

MS. CLEARY: I do think that we are a really key moment of figuring out some great digital solutions that cultivate relationships between adults and children, that foster collaboration, that help support kids are creators and innovators. They'll get a Scratch or a Scratch Junior. Rather than thinking of kids as consumers of technology which, frankly, learning to use an iPad, not so useful in 20 years. You know, in 20 years you're going to be needing to create the next technology or invent the next language.

I think the reality is that technology is used a lot, by a lot of parents, and by a lot of teachers as well. They believe it's important and they want to invest in that time for kids, and so they use it, often they use it as a substitute for some of the other values that they know they could be imparting. When in reality, technology can be a great vehicle for play, for engagement, but it's a little harder, I think, right now.

MS. MAGSAMEN: I agree. I mean, I think technology in service of learning is what we're talking about. But, you know, you think about things like being able to text a mom when she's in a stressful situation with a baby. Here's some things that you can do. You think about those immediate connectors, the ability to scale, the ability to capture information to look at mastery.

Gaming. The gaming community has done some amazing things. I mean, if we could bottle some of that augmented reality, virtual reality. I mean, I'm waiting for teleporting. I just want that. I mean, we're going to be having -- technology it's fantastic, but it isn't the master.

MS. WOLMAN: In fact, it will never hold the keys. We hold the keys. I think that we need to make sure that we honor the door that we're walking through and be very careful as we do it.

MS. ATINC: I want to honor the audience, so I'm going to have one last question before turning it over to them. Switch to the last theme which is building momentum for this agenda. I do want to start out by saying there's clearly a great focus now on learning outcomes globally, so we have shifted. We say evidence of that in the sustainable development goals, and the sustainable development goal recognize the importance of the breadth of skills.

I wanted to read out the relevant language for everybody. So they say, by 2030 ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among other, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity, and of cultures' contribution to sustainable development.

So how does that sound to you, is one question? Then my next question, and I'd like each of you to give me a response on this is, what is it going to take to be even more convincing of the importance of this agenda, and to build momentum for its implementation? So if you could name one critical ingredient what would that be?

What I'll do is, I'll go down the line.

MS. GOLINKOFF: So I think educating parents about what we mean by learning and the importance of interacting with children sometimes may fly in the face of cultural norms, and yet, there will be other people in the society, like older children who can take that role.

It is crucial for children to hear language, to be challenged in a fun way, and to have experiences with people who can scaffold their learning. So if we can craft a message to indicate the importance of communication between parents and children or older children and smaller children I think we will definitely go part of the way.

Every society wants their children to succeed, and every society needs their children to

have skills like this, if not exactly this set, to be able to compete in this new, crazy world.

MS. ATINC: So somehow we're going to get you and Kathy inside the heads of every parents. Okay. Next?

MS. MAGSAMEN: So the logical next step would be the workforce. How do we both educate and then support the workforce to be able to integrate these concepts into their practice in a very genuine, authentic daily infused it into their practice.

MS. WOLMAN: I would say I agree with you totally. I would just move beyond the workforce too. I would also say that parents have to come to realize what real learning is, and that we have to help them see the fuller breadth of skills. Whether we want to call it the report card for the 21st Century or something else. If they can't' appreciate, if we, as a society, can't appreciate that there's more than just an outcome number on a test we will have failed.

MS. CLEARY: I think we're going to have to be very flexible and really listen to our different audiences here. I think different policymakers and different kinds of countries are going to need to understand this from different perspectives. I think different parents need to understand it from different perspective.

I think we really need to be good listeners, kind of as a movement. I would love to see a little bit a of a shift away from the employability argument which I think is a very tempting one because it plays into national, you know, sentiments of national competition, et cetera. I would love to see of focus, instead, on how significant social problems get solved in the future. That some of the burden of solving social problems can shift to the countries and communities in villages in which children can be cultivated as problem solvers and creative thinkers, and innovators of tomorrow.

How can they solve problems in their own schools and classrooms today, and solve problems in their own communities tomorrow? Is there an argument to be made that's about cultivating great people rather than just employable workers? But I get that it's a challenging one.

MS. HIRSH-PASEK: I think that we need to have an unwavering commitment and will to do this. I mean, I think we have to stop saying, we just need a little. I think we have to say we are going to do this. With that comes a plan. I think we need a plan. I think we need a plan. We need milestones. We need actionable outcomes.

With that comes leadership. I think that, you know, there's a lot of talk. I think we need a lot of action to go with that talk.

MS. ATINC: I was hoping to get some of the elements of that plan from you guys. But, I think we're going to have to --

MS. GOLINKOFF: Did we fail?

MS. ATINC: No, I think you're incredibly strong on vision, but I do think we need to --

MS. MAGSAMEN: Operationalize this.

MS. CLEARY: Right? That's the plan.

MS. ATINC: What do you tomorrow and the next day and the next day. For my part I'd say given what we said about the absence of a robust body of literature in the developing world I'd like to see more research. That will be convincing.

It's really not good enough to go to Brazil and say, you know what? It works in the Netherlands, and this is how they do it, and you should try, so context really matters. I think it's important to have more longitudinal studies in the developing world. I would also say that there really needs to be effort made on the measurement agenda.

Again, it is seeing is believing, but you've got to start there, and you've got to show people that what you do really matters in terms of the cultivation of those skills. I think there's a role for external partners as well in supporting this agenda. Donors, foundations, think-tanks, like the Center for Universal Education, NGOs clearly have a role. I think the business community has a particular role, and I'm not sure that we have tapped into them as effectively as one can, given the interest that they have.

Sorry, it's about employability, but, frankly, in society they're the ones that are more loudly clamoring for skills of the type we've talked about that go beyond contents. But most of the feedback that I see in Enterprise surveys suggest that what they do not find in the labor market are the collaboration teamwork, critical thinking skills, and the creative problem solving skills. So they're a natural ally in terms of cultivating their support.

So with that, we're doing well. We have about 30 minutes to engage all of you in this conversation. Please raise your hand, indicate your name and affiliation, and ask your question. Thank you.

QUESTIONER: Hi. I'm Sammy. First of all, thank you. This has been fascinating. I'm just being exposed to all of this. It was really interesting, and it makes a lot of sense to me.

My question is, you indicated there's a lot of support from parents and policymakers for this sort of an agenda, but there's also an anti-intellectual strain in this county, and a terrible lack of critical thinking which I think was one of the things that you focused on. How do you combat that when you're trying to get support and funding to put forward this sort of an agenda?

MS. ATINC: Anybody else? Let's take a couple if we can.

QUESTIONER: Rob Thariff with SIL International. I just want to hear how you played bilingual bingo.

MS. ATINC: There's one in the back there.

QUESTIONER: Thank you. I have a question with regards to collaboration and a bilingual household. You were talking a lot about collaboration with your kids, but if you have one parent who's speaking one language, and another parent who's speaking the other language how do you do the collaboration when all three are playing together?

MS. ATINC: Okay. Why don't we take those, so how do you combat the anti-intellectual agenda and we're not talking politics in the U.S., right?

QUESTIONER: Yeah.

MS. WOLMAN: I'll just say, I come from a family of five girls and we have very mixed political opinions, belief system within five girls. Imagine our holiday dinners, right? So we had to make a commitment about ten years ago that nobody could get up from the table. We had to sit and we had to listen and we couldn't talk over each other.

I'll just use that as a metaphor that I think what we have to do is sit, and listen, and not talk over each other. We do that all the time. We have grown and we have evolved, and our opinions have changed, and I think that's the nature of being a mature culture, and country, and world. And so, you know, it doesn't get a whole lot more complicated than that. Easy to say. Hard to do.

I think I am finding that all kinds of people are very compelled by the research. So I'm finding that whether it's anti-intellectual or whether it's just, you know, people who have a very driven agenda around a particular life for their children, I find that, you know, data are powerful.

When people hear that two groups of children learn to read, and one group was five, and one group was seven, and by the time they were 11 the ones who had started at the age of seven were better readers, had better reading comprehension.

I find that all kinds of minds open to the science. So I just want to put in a plug for, in all of this work, making sure that the science is front and center. That's where I think that Robert and Kathy have been so powerful. But I think everybody can be convinced, and the science is a great tool.

MS. GOLINKOFF: I love that. That's why we're so passionate about getting the science out there. I think it is true that people want to do right by their children; everybody wants their children to exceed them.

It turns out, in the United States, what we're doing now is exactly the opposite of what children need. The more we can help families, that's why we wrote the book, the more we can help families see that while it may take a long time to change the schools there are things that we can do with our children out of school to help them cultivate the skills that they will need. Not just for the job market, but to be good people. Perhaps we can make a dent and reduce the anxiety that's out there.

We hear this all the time from parents we interact with. There is tremendous anxiety. Children who don't perform well on these tests are considered doomed. This is terrible. Children have many, many qualities, and many capabilities, and be defining children merely by the grades on tests we're leaving out a whole bunch of our population who could be making fantastic contributions.

So the more all of us can talk about these ideas and share what we know and share the science, perhaps, we can help to change the national conversation.

MS. CLEARLY: Can I just say one quick thing? I was thinking about confidence. The other side of confidence is really low self-esteem and shame. I feel like that is another side of this. It's not (inaudible) intellectualism, as much as I think it is. You know, there's a lot of people in this country that don't feel good about themselves and that's really sad.

MS. MAGSAMEN: I also want to say, so the one controversial thing I'll say about the book is the title. Because I think that what this set of strategies does is it helps make a better citizen. It helps make a happier person. I think there are plenty of parents who are desperately worried about whether their child, at 2, will get into Harvard. I mean, that is a real issue for us in this field and for this

country.

But I think there are other parents who desperately want to know, what's the answer? How do they parent? With a lack of support they do what they think they see other people doing. A quick example is if you're on the subway in New York City, it's likely that you'll see a low income parent be very hostile to their child. Sit still, don't talk, don't move. And, of course, we want young children to talk, move, and be nosy. But that's because that person is doing -- she's not a bad parent. She's doing what she thinks she's seen and what people expect of her as a good parent.

I think what this book does is it not only liberates teachers. It liberates parents to do what comes to them instinctively which is to engage their children with themselves and in their environments. So I do think there's this incredible opportunity to help families. I don't know that we answered your question, honestly, but I think there is a real opportunity to use this book in family engagement strategies.

MS. HIRSH-PASEK: I actually think you're right, Sammy, there is this anti-intellectual thread to be sure or maybe it's even more than a thread. It's, at this point, a tapestry.

But I believe that there are places where we are very united. I'm actually quite surprised when I look at the numbers in support of things like universal pre-K. It's up in the high 70s, low 80s. It doesn't matter what party you're from. It may be one of the only areas where there's agreement in the city and the country, but it's there.

I want to return to a couple points that have been made, but maybe squarely put them on the question you asked which is, is it about anti-intellectual or not? No, there's not a person out there who doesn't want their kid to succeed. That can be true of the least intellectual person you will meet on the street. If you asked them -- I've met -- in my lifetime, I don't think I've met anybody who didn't want what was best for their kid. They may have different ways, and Sherry's talking about trying to get there, but they all want what's best for their kids.

That really should make you feel pretty good that people have that in mind. I think the other thing that is very much, and I hear you, sir, I think you're quite right, I mean, which is why we did pitch it toward citizenry as opposed to toward workplace. But there are a lot of people scared that they're not going to have folks to employ in 20 years. Well, forget 20 years, now, all right?

They're quite agreed on what is needed. You know, if you go to those surveys tomorrow

that you brought up, it's pretty darn clear that same stuff keeps popping up all the time. You might have noticed the overlap because we wanted, at least that kind of alignment, because those people who do feel good about themselves, who were cherished by their parents, who are going to get jobs. They do also often tend to be better citizens because they're more stable.

So, yes, the country has a lot of issues. But when it comes to, at least saying they're going to support kids, then you get back to Susan's point is that we say it a lot, but we don't, kind of, do it. It's very interesting when you travel a lot to see the differences in different cultures. Some cultures don't have anywhere near the amount of money that we do, but which truly cherish the children in a different way.

MS. ATINC: Can I see what other questions there are? Six, okay. I think we can do it.

MS. GOLINKOFF: Could I take the trilingual one, since it was asked.

MS. ATINC: Yes.

MS. GOLINKOFF: But I just wanted to say a word on that which is that it's not all about the language you communicate it. It's about whether you look at a child when a child is trying to get your attention. It's whether you have a hug somewhere in your front pocket, not even in your back pocket. That's all what collaboration is about too.

Having two languages, it works. They know you're there for them. They'll be better off because of it.

MS. HIRSH-PASEK: That's right.

MS. MAGSAMEN: It does work. I grew up in a tri-lingual household.

QUESTIONER: Susan, a lightbulb went off when you -- your comment about a lot of people in this country don't feel good about themselves, because I think that informs a lot of our current political dialogue. I think politicians are pandering to that, and that has profound implications for our society.

MS. MAGSAMEN: You know there's -- should I say something about that?

MS. ATINC: Yes.

MS. MAGSAMEN: Just interesting, I was in South Korea recently, in a book store, and about a third of the book store was what I call self-care, self-help books. South Koreans are so driven to

know themselves more, to do better, to want to do better. They don't feel that great about themselves. They're scared. They're anxious, like many of us are, but they want to know.

I think that's the out. That's how you get to the next place. It was really fascinating to see that there are more than one way to -- you know, you can call it down with anger, but you can also seek help and growth. I think that is the way.

MS. ATINC: Go ahead.

QUESTIONER: Hi. My name's Shelly Kessler. One of the things that you've all talked about is the cultural shift. I work with organizations, and what we're seeing is a change -- cultural shift in generations, in corporations, in nonprofits. There's a real cultural backlash within those organizations.

One of the things that we're not dealing with is change management. As you're talking about these things, I'm also thinking about the generation we have in place. Someone said, it's too late for my kids. But we do have a generation in place that deals with things in a certain way. They are the products of No Child Left Behind, and they're going to be those managers, directors, et cetera.

We're talking about creating more cultural clashes and shifts. And so within the context of what you're talking about, what does change management look like? How do you look at the generation that we're saying it's too late for, and say, how do we bring them into this conversation?

MS. ATINC: Why don't we take the others as well, and then I'll go down the line and ask each of you to pick up whichever question you're interested in answering? Go ahead.

QUESTIONER: Cris Revaz with Creative Associates. Thank you for your presentation. It's been really interesting. My question goes to gender. I think we've been speaking, so far, about children without differentiation between girls and boys. I'm just curious as to whether you have any interesting observations in the context of the six Cs about the differences between, if any, between how girls learn and develop and flourish versus boys?

MS. ATINC: Right there, yes.

QUESTIONER: Thank you. My name's Ian Halpern. I'm based in Dakar, Senegal, so I'm very interested in how to expand this whole thinking, and the broad, universal framework as mentioned now.

I think, obviously, the cultural dimension is extremely important. The fact that 80 percent

of time the children spend outside school. That means grandparents, communities, families, and so on, and how to give a real relevance to the findings brings me to the point of how to associate research and training institutions in Africa in this type of reflection?

I know in the University of (inaudible) in Dakar where I teach sometimes, doesn't even have a psychology department, although they have education and so on. So how do you manage to strengthen these institutions? They're just starting a Center for Excellence now for mother and child health, which is an initiative funded by the World Bank and others. So how can we really bolster and support these institutions which will bring credible evidence in a very different cultural context where respect and reciprocity, and so on. There's a huge clash between the child speaking up and what the child is supposed to do and behave in the average African, and even Vietnamese context, where I also worked? Thank you.

MS. ATINC: There's one here and then one in the back.

QUESTIONER: Hi. I'm Rae Pica. I've been an early childhood education consultant for 36 years. I'm the author of, "What if Everybody Understood Child Development." In my 36 years, I've heard many, many parents ask, well, my child is only two and doesn't know enough math and that sort of thing. I hear it constantly from early childhood professionals. I have been telling them that one of the ways they can make an impact is to educate the parents as to what, Kathy referred to, is real learning.

Now, is that a flawed premise? If not, they want to know how? You know, what is the simplest way to help parents understand? They're getting so much pushback. I really think that if parents started demanding the right things from the preschools and the public schools that we might begin to see a difference.

MS. ATINC: Okay. On the left and then one in the back.

QUESTIONER: Okay. So my question was we talked about the culture of needing to over control things, and how we need to let go and give control to teachers and children to learn. So what do you think we have to do within our culture in order to foster that change?

MS. ATINC: Way at the back, yes.

QUESTIONER: Hi. It was a wonderful presentation. My name is Meghan Gurdon. I write for The Wall Street Journal. My question is, do any of you know of a culture now, or in the past,

where these six qualities have been naturally manifest? Perhaps it was a preindustrial society, perhaps it's somewhere now?

MS. GOLINKOFF: Canada.

MS. HIRSH-PASEK: Anasazi Indians, but they disappeared.

MS. GOLINKOFF: Uh, oh.

MS. ATINC: Why don't we start with Susan this time and then come down.

MS. CLEARY: So just some question.

MS. ATINC: Just pick one or two, yes.

MS. CLEARLY: All right.

MS. ATINC: Because each of you have about one minute.

MS. CLEARLY: Change is messy. We have to meet people where they are. I think gender matters. I think gender really matters. I think it's actually very hard to be a boy right now in many cultures because the expectations are so deep and old, and compassion and collaboration or all those things, really, don't necessarily have a space. But I think we have to think about gender.

I think it's never too late. It is never too late. I think that you start where you are, but there's no child or person that's ever not valuable and can change.

MS. WOLMAN: I guess to your question about research institutions and how to better integrate them and strengthen them. I think what we're seeing now is the partnership discussion of ten years ago is much more of a consortium discussion now, and it should be. I think we're starting to see very interesting city-level examples around the world, and village-level examples, and community-level examples.

We're consortia that include researchers and thought leaders and funders and policymakers and others really are bringing a lot of the key stakeholders to the table together, and I think that model is proving very effective. What we're seeing, though, is very interesting and kind of uneven results where there are different and stronger and weaker players at the table.

So I think this would be a very, very interesting area to study and to take a look at is why are some of these consortium more effective at, really, sector-level social change, and why did those changes stick?

Then, very briefly on the issue of change management. I was really struck by what you said about the next generation. My brief observation about the next generation based on having a couple of teenagers at home, and also some observations about younger colleagues in a variety of workplaces. I think we have a couple of things going for us, but I should say that I'm a natural optimist, so take it with a grain of salt.

I think we have a couple of things going for us. One is, I think the next generation of employees has tremendous radar for authenticity. They don't, necessarily, have the most refined social skills, but part of that is also about the rapid fire texting. They also have somewhat thicker skins, I think, than we do generationally because they don't read into the thing that wasn't there.

We craft emails and spend 20 minutes on word choice, and they've already sent 50 texts in the time that we've sent that one email. But that authenticity, I think, we have a lot going for us in the sense that I think they inherently value some of the things that we value. And I also think they are super connected. They're globally connected and they're super connected.

You know, we laugh about emailing your spouse in the next office or texting your child who's, you know, coming in the walkway, walking home from school, but that over connectedness that, I think a lot of us who are of a certain generation are adjusting to that. I think that connectivity is actually going to be a tremendous asset in terms of emphasizing communication and collaboration going forward.

MS. HIRSH-PASEK: Well, I'll start in Senegal in Africa which is that I think --

QUESTIONER: (off mic)

MS. HIRSH-PASEK: You know, again, we do need that kind of research, but I think there are some really cool models, not just the partnerships, but our Latin American School for Educational and Cognitive Neuroscience is a beautiful example of what can also happen in Africa.

The model there is to take the best of the best in the continent, introduce folks to people outside the continent, and to help people in various countries build an infrastructure so that, indeed, you will have people in a psychology department, and specialists in that psychology department who can then train the next generation of whether they be home visitors or whether they be academicians or whatever. That's what we've been doing throughout Latin America over the last six years. It's been deeply, deeply

exciting.

Rae, I'm going to come to you. I think part of it is, as you know, and you do such a good job of it, is to help people see things differently. That's not always easy. When I see a pail and shovel and you see a pail and a shovel at the beach we see math opportunities, and we see collaboration, and we see an opportunity for narrative and collaboration in a lot of parents. Educators, unfortunately, will often see a pail and a shovel.

One of the things that Roberta and I are spending a lot of time doing is just helping people change the lens, see the potential in everything that's out there. Because when you start to see the world differently you actually act different. If I may just take one other quick example is my daughter in law who is absolutely fabulous and has a master's in education. She had a new baby, and when Roberta and I were in Hawaii with her she was constantly with the pacifier.

But she had no way of knowing that an eight to ten week old baby would answer us and would have collaboration and communication with us, even though that baby was just weeks old. When she saw that it was like a lightbulb went off. She said, my god, either the baby got much smarter or I now know that there are things to look for. It is our collective job to help people see.

Shelly, I'm not convinced that the NCLB kids are happy they were NCLB kids. I agree. They're a new generation, and what I'm seeing out of the millennials is so exciting that I can't wait to see the world that they create. They take collaboration super seriously. I think the kind of outcomes and the way they were trained in script-based learning, not so seriously. So I'm actually optimistic that they'll be an open door.

The woman in the back. Yes, Canada has done a wonderful job. I am so proud of her and the Province of Ontario, and I can connect you with the people. They are doing it.

MS. MAGSAMEN: So I'll start with the lady in the back. In addition to Canada, one of the things that I've studies over the years is indigenous cultures with particular reference to Native Americans in this country. Before white people messed it all up for them they had -- and some people truly retain this culture of a deep, deep regard for children at birth, because they believe in a cyclical life cycle. They believe that all children have an old soul, and so they treat a newborn as if it was this sacred elder who's just been reborn.

So they assume that this child comes with wisdom. It is the most extraordinary thing to see, and it changes up all of these -- you see these dimensions. The idea of actual factual learning is not on their radar screens until a child turns 8, which has been reinforced by all kind of learning theory, but they actually embody it. When you can find a couple who is still committed to very traditional values, you can see this in really compelling ways.

Then, what I would say about change is sometimes I find that it's very important to point out that humans don't like any change, not even good change. Even improvement makes them very uncomfortable, makes us, how do I put myself out of that picture? Makes us all very uncomfortable. So sometimes when we're able to point that out to groups and they come to terms with that they become much more open to change, so I think there's a psychology of change that we have to pay closer attention to.

The other thing that we find very, very useful is when we say, what are the barriers to your best work? This is a very different thing than saying, why aren't you any good and you need to change. We say to people, we assume that you have every best intention, and we assume that you have all the requisite skills, and the affect to do it. So what is keeping you from it?

It's amazing when you ask that question that you get really thorough, analytical thinking saying, I think it could be these three things. So then we turn to, what do you do to eliminate those things? When people feel empowered to fix their own situation change, generally, can come.

I don't know, you know, I can't say that I am an organizational change person, but we've had some really compelling results about that. When it comes to gender, we have discovered that when you're working with children you're also working with their parents, and their parents' gender, and their parents' attitudes about gender are both influencing the child, but they influence the parents' own sense of reality.

We've really had to give some very deep thought to gender. Traditional gender, current gender. We're so extraordinarily impressed with the modern father, for example. But that modern father still has so much to navigate when that person is in the context of his roots, his family. We've very interested in how gender plays out. Every session we do on gender we start out by saying nobody is natural and nobody is normal. That kind of starts to put everybody on a plain where they can kind of have

a discussion about it.

MS. ATINC: Roberta?

MS. GOLINKOFF: So going to Senegal first. We have a project in South Africa working with supermarkets and a foundation to put up signs to encourage discussion between parents and children. So I don't know that you have to wait. I think that there are things that we can do right now in Africa that can make a difference.

With respect to gender, I would have to say as a psychologist that learning is learning. I may shock you by telling you there is no such thing as learning style, which everybody talks about. People all learn in the same way, and the chapter in which we discuss gender is confidence. Because women have less confidence than men, and probably minorities in our culture have less confidence than mainstream. So these are factors that we need to consider, and there are people out there thinking about these issues.

I'm so happy that Rae came. I wish that the change could come from parents. I wish we could help them change the lens. But because there's so much anxiety out there we really have to work at that. Because parents come into preschool classrooms asking, do you have worksheets? Do you have computer science? Because parents are worried and the crash in 2008 didn't help anybody. It only got worse. Nobody wants their child to be left behind. Nobody wants their child to be fired first. Everybody's worried about their kids' future.

We don't make it easy, unlike Canada, we charge a fortune for education, putting it outside the realm of many families. We really need a wholesale change.

To Meghan back there, this would be the last thing that I want to say which I think captures where we all want to be.

MS. WOLMAN: Canada?

MS. GOLINKOFF: No. Although after the elections. The joke is that the Canadians are building a wall to keep us out if you know who wins.

MS. CLEARY: In defense of America, I mean, I totally get the tongue in cheek, and I think Ontario is a fabulous examples. I think there are amazing examples here also.

MS. GOLINKOFF: That's where I'm going.

MS. CLEARY: And all over the world.

MS. GOLINKOFF: That's where I'm going.

MS. CLEARY: Okay. Good. I'll let you go there.

MS. GOLINKOFF: Meghan, I want every child to have the education Obama's kids had at Sidwell Friends they're teaching all the six Cs, and other private schools around the country that don't have to follow the mandates that the government has put out, which have been translated as testing and scripted learning. I want every child to have a Sidwell Friends education, for free.

MS. ATINC: Okay. Well, you can't accuse the panel of not having passion.

MS. GOLINKOFF: I almost jumped out of my seat.

MS. ATINC: I want to thank all of you for being fantastic listeners. Maybe the art is not lost, certainly not in this crowd, for being fantastic learners as well. I think we're planning on you to propagate. Clearly, we need to evangelize this message. That's one way for it to spread, through your friends and networks. We're going to have to think about other, wholesale ways of doing that as well.

Please join me in saying thank you to the fantastic panelists.

MS. GOLINKOFF: Thank you, Tamar. You're great.

MS. ATINC: Thank you.

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